



wwPDB X-ray Structure Validation Summary Report ⓘ

Sep 11, 2023 – 09:36 PM EDT

PDB ID : 4LLF
Title : Crystal structure of Cucumber Necrosis Virus
Authors : Smith, T.
Deposited on : 2013-07-09
Resolution : 2.89 Å(reported)

This is a wwPDB X-ray Structure Validation Summary Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.35.1
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.35.1

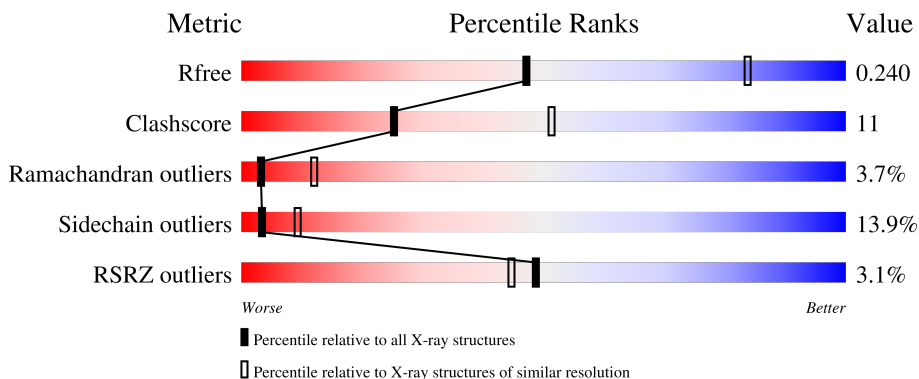
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.89 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	2691 (2.90-2.86)
Clashscore	141614	2947 (2.90-2.86)
Ramachandran outliers	138981	2868 (2.90-2.86)
Sidechain outliers	138945	2871 (2.90-2.86)
RSRZ outliers	127900	2629 (2.90-2.86)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	380	 2% 52% 20% 24%
1	B	380	 4% 50% 20% 5% 23%
1	D	380	 0% 56% 25% 16%
1	E	380	 0% 52% 21% 24%
1	F	380	 3% 49% 21% 6% 23%

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Mol	Chain	Length	Quality of chain
1	G	380	<p>%</p> <p>55% 26% 16%</p>
1	H	380	<p>3%</p> <p>52% 21% 24%</p>
1	I	380	<p>4%</p> <p>46% 22% 7% 23%</p>
1	J	380	<p>%</p> <p>58% 23% 16%</p>
1	K	380	<p>2%</p> <p>51% 23% 24%</p>
1	L	380	<p>5%</p> <p>48% 22% 6% 23%</p>
1	M	380	<p>%</p> <p>56% 26% 16%</p>
1	N	380	<p>2%</p> <p>51% 22% 24%</p>
1	O	380	<p>5%</p> <p>48% 22% 6% 23%</p>
1	P	380	<p>2%</p> <p>56% 26% 16%</p>

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 34586 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Capsid protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	289	2212	1408	370	433	1	0	1	0
1	B	291	2226	1417	373	435	1	0	1	0
1	D	321	2462	1573	417	471	1	0	2	0
1	E	289	2212	1408	370	433	1	0	1	0
1	F	291	2226	1417	373	435	1	0	1	0
1	G	321	2462	1573	417	471	1	0	2	0
1	H	289	2212	1408	370	433	1	0	1	0
1	I	291	2226	1417	373	435	1	0	1	0
1	J	321	2462	1573	417	471	1	0	2	0
1	K	289	2212	1408	370	433	1	0	1	0
1	L	291	2226	1417	373	435	1	0	1	0
1	M	321	2462	1573	417	471	1	0	2	0
1	N	289	2212	1408	370	433	1	0	1	0
1	O	291	2226	1417	373	435	1	0	1	0
1	P	321	2462	1573	417	471	1	0	2	0

- Molecule 2 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	B	2	Total Ca 2 2	0	0
2	D	1	Total Ca 1 1	0	0
2	E	2	Total Ca 2 2	0	0
2	F	1	Total Ca 1 1	0	0
2	H	1	Total Ca 1 1	0	0
2	I	2	Total Ca 2 2	0	0
2	K	2	Total Ca 2 2	0	0
2	M	1	Total Ca 1 1	0	0
2	N	1	Total Ca 1 1	0	0
2	O	2	Total Ca 2 2	0	0

- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	D	1	Total Zn 2 2	0	1
3	G	1	Total Zn 2 2	0	1
3	J	1	Total Zn 2 2	0	1
3	M	1	Total Zn 2 2	0	1
3	P	1	Total Zn 2 2	0	1

- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	5	Total O 5 5	0	0
4	B	5	Total O 5 5	0	0
4	D	4	Total O 4 4	0	0

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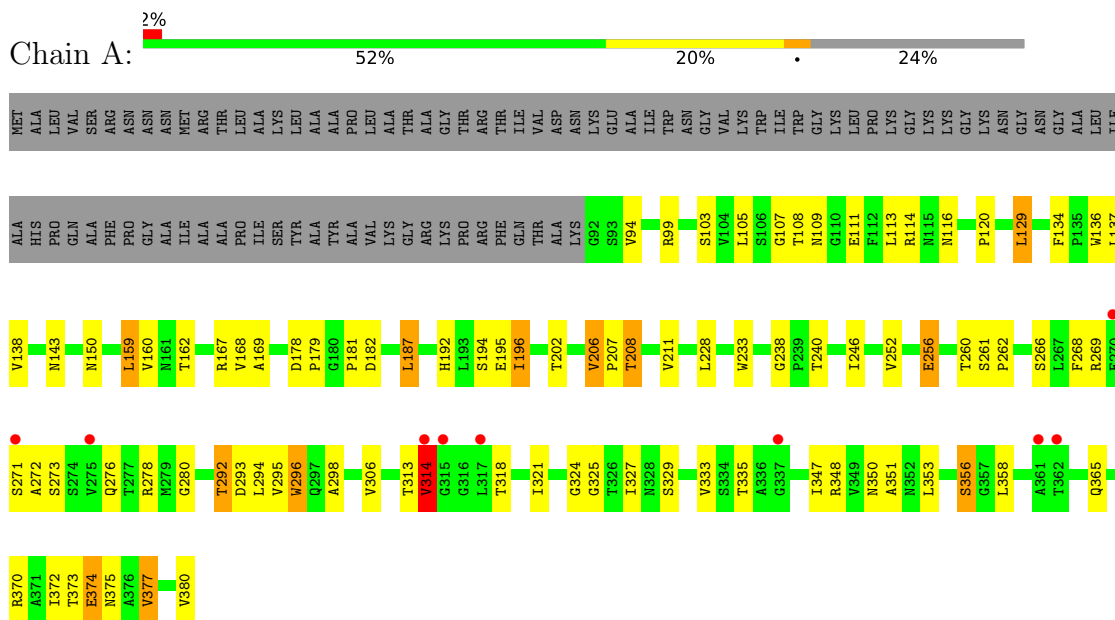
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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	E	3	Total O 3 3	0	0
4	F	1	Total O 1 1	0	0
4	G	5	Total O 5 5	0	0
4	H	4	Total O 4 4	0	0
4	I	3	Total O 3 3	0	0
4	J	3	Total O 3 3	0	0
4	K	3	Total O 3 3	0	0
4	L	5	Total O 5 5	0	0
4	M	4	Total O 4 4	0	0
4	N	5	Total O 5 5	0	0
4	O	4	Total O 4 4	0	0
4	P	7	Total O 7 7	0	0

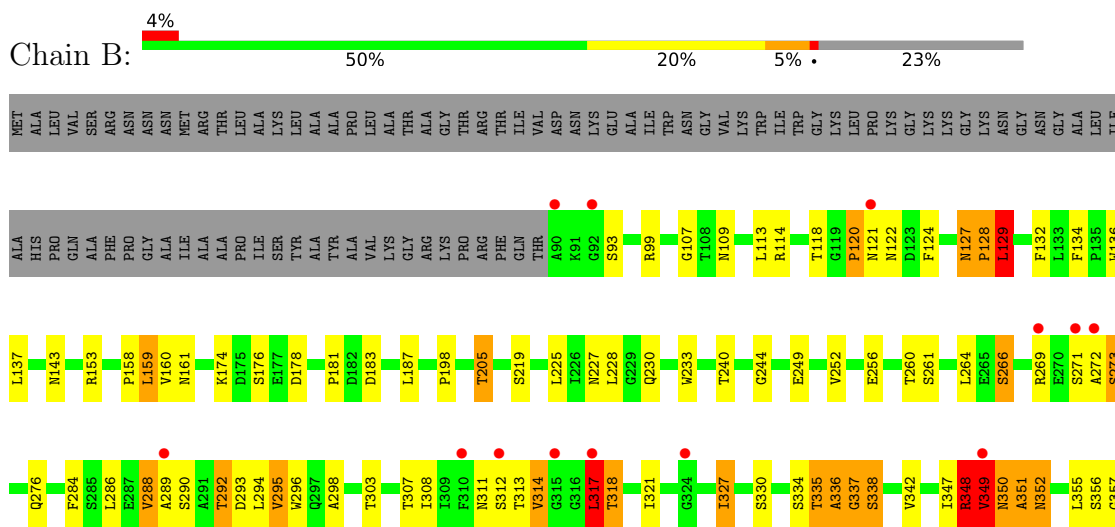
3 Residue-property plots

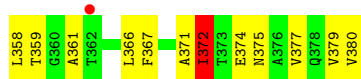
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: Capsid protein

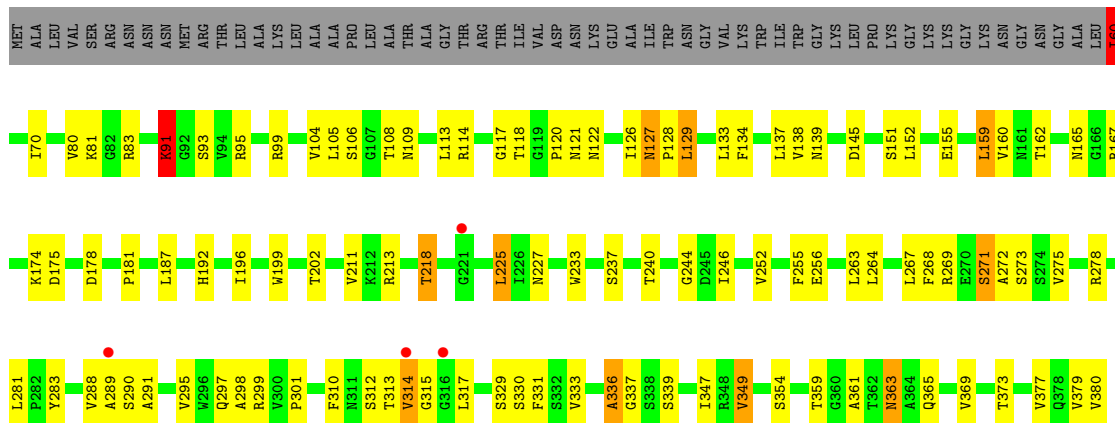


- Molecule 1: Capsid protein

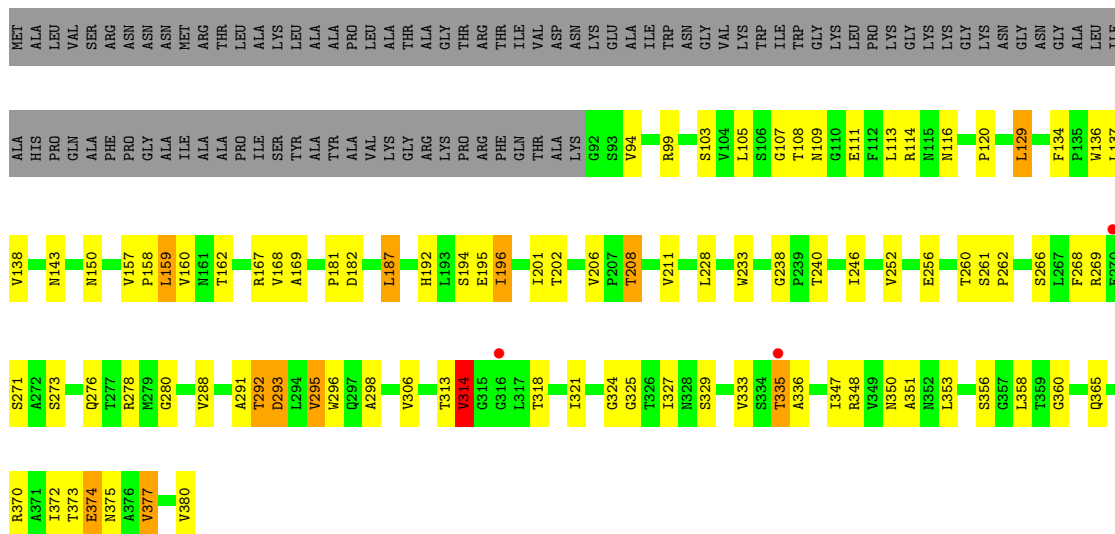




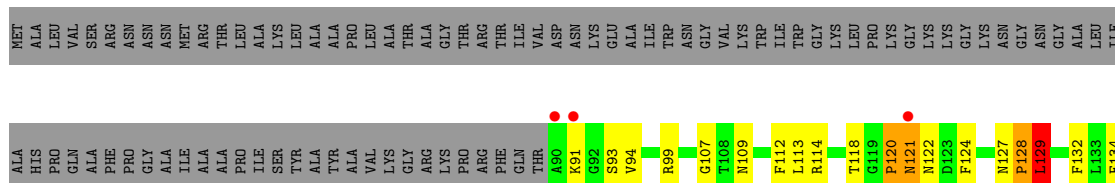
• Molecule 1: Capsid protein

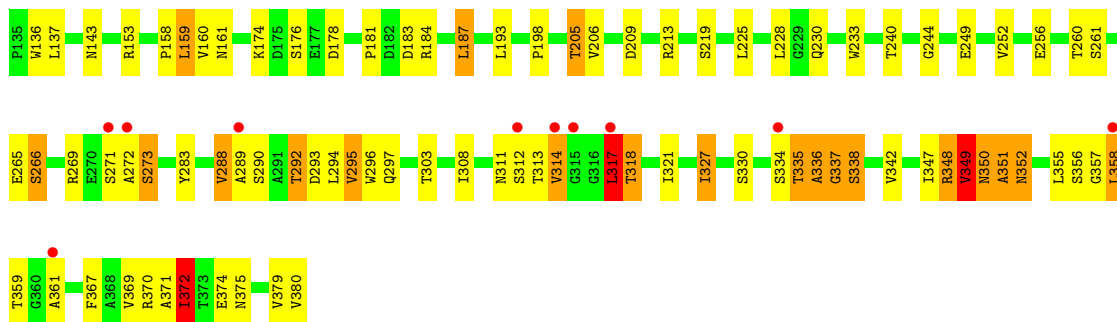


• Molecule 1: Capsid protein

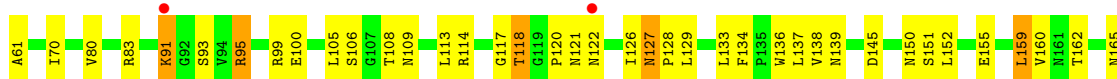
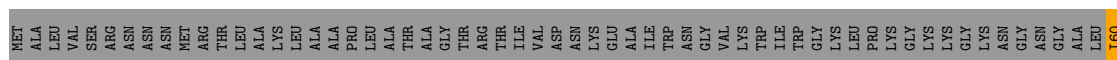


• Molecule 1: Capsid protein

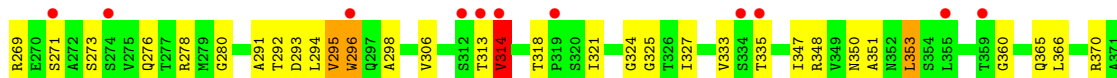
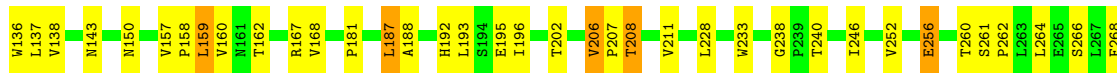
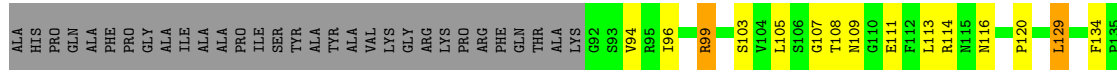
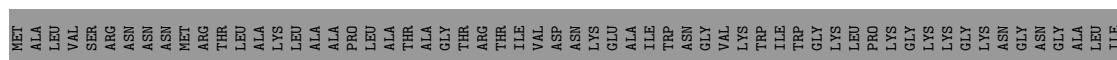




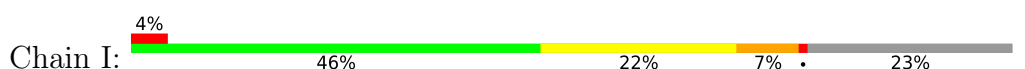
● Molecule 1: Capsid protein

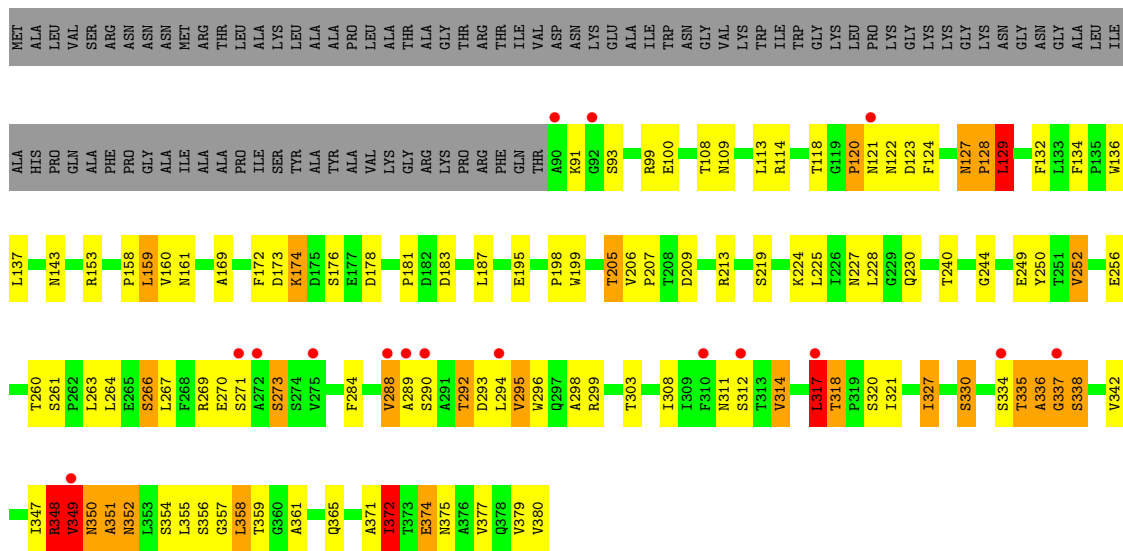


● Molecule 1: Capsid protein

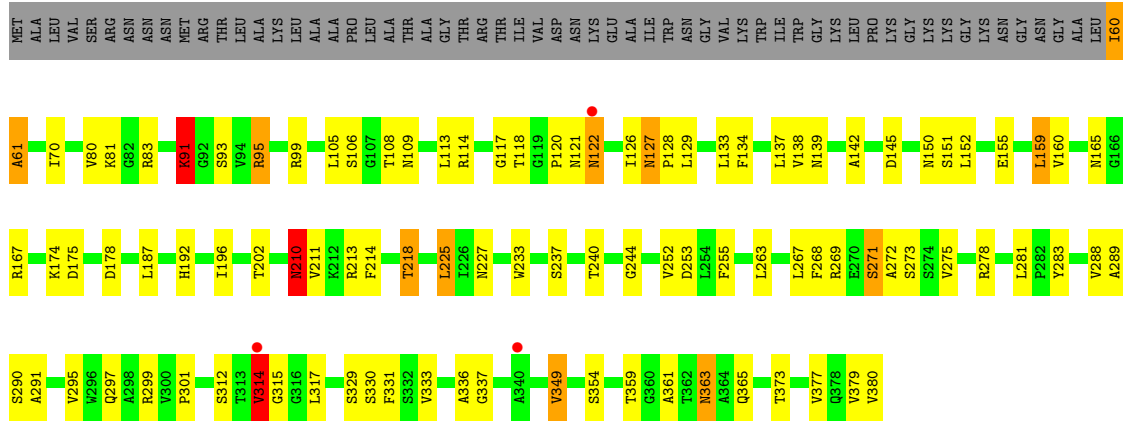


● Molecule 1: Capsid protein

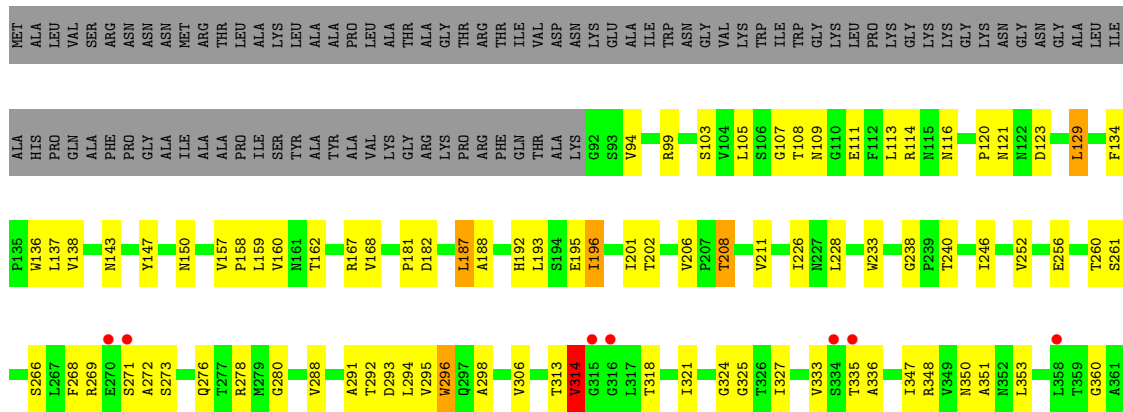


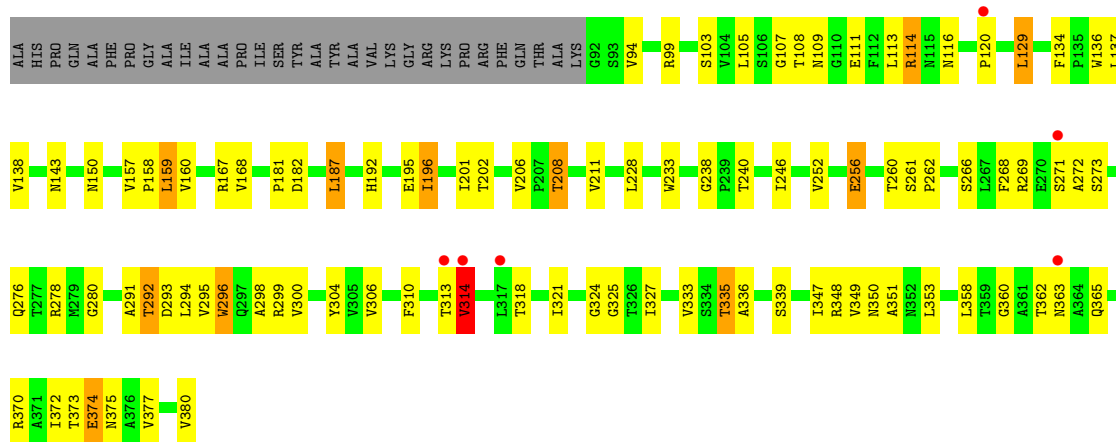


• Molecule 1: Capsid protein

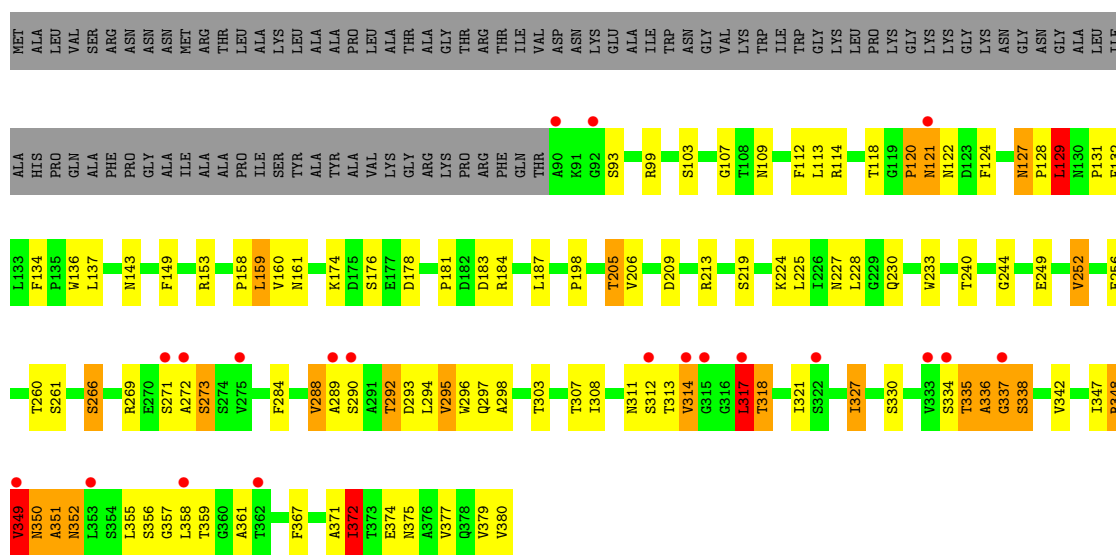


• Molecule 1: Capsid protein

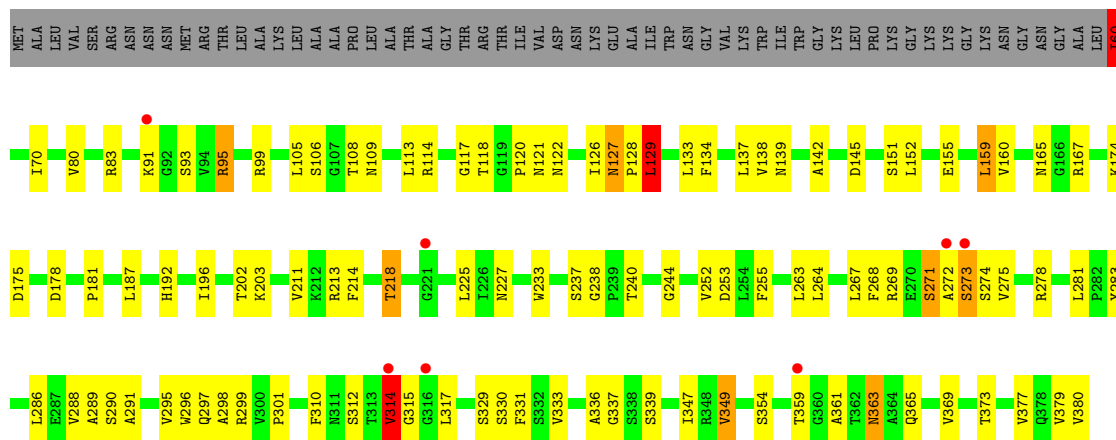




- Molecule 1: Capsid protein



- Molecule 1: Capsid protein



4 Data and refinement statistics

Property	Value	Source
Space group	I 2 3	Depositor
Cell constants a, b, c, α , β , γ	384.00Å 384.00Å 384.00Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	75.31 – 2.89 78.38 – 2.89	Depositor EDS
% Data completeness (in resolution range)	64.4 (75.31-2.89) 63.6 (78.38-2.89)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.52 (at 2.91Å)	Xtrriage
Refinement program	PHENIX (phenix.refine: 1.8.2_1309)	Depositor
R, R_{free}	0.213 , 0.242 0.211 , 0.240	Depositor DCC
R_{free} test set	9645 reflections (5.03%)	wwPDB-VP
Wilson B-factor (Å ²)	32.6	Xtrriage
Anisotropy	0.000	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 59.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.34$	Xtrriage
Estimated twinning fraction	0.013 for -l,-k,-h	Xtrriage
F_o, F_c correlation	0.89	EDS
Total number of atoms	34586	wwPDB-VP
Average B, all atoms (Å ²)	53.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.01% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: CA, ZN

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.54	0/2267	0.67	1/3102 (0.0%)
1	B	0.54	0/2281	0.74	5/3120 (0.2%)
1	D	0.53	0/2530	0.74	4/3461 (0.1%)
1	E	0.55	0/2267	0.66	0/3102
1	F	0.56	2/2281 (0.1%)	0.72	4/3120 (0.1%)
1	G	0.53	0/2530	0.76	2/3461 (0.1%)
1	H	0.76	7/2267 (0.3%)	0.80	6/3102 (0.2%)
1	I	0.55	0/2281	0.83	10/3120 (0.3%)
1	J	0.54	0/2530	0.77	4/3461 (0.1%)
1	K	0.54	0/2267	0.67	0/3102
1	L	0.53	0/2281	0.71	3/3120 (0.1%)
1	M	0.53	0/2530	0.77	6/3461 (0.2%)
1	N	0.52	0/2267	0.67	0/3102
1	O	0.53	2/2281 (0.1%)	0.70	3/3120 (0.1%)
1	P	0.52	0/2530	0.74	4/3461 (0.1%)
All	All	0.55	11/35390 (0.0%)	0.73	52/48415 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	L	0	1

The worst 5 of 11 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	H	296	TRP	CG-CD1	-18.62	1.10	1.36
1	H	296	TRP	CE3-CZ3	7.97	1.52	1.38
1	H	296	TRP	CZ3-CH2	-7.36	1.28	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	H	296	TRP	CD2-CE3	-7.21	1.29	1.40
1	H	296	TRP	CB-CG	-6.82	1.38	1.50

The worst 5 of 52 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	I	348	ARG	NE-CZ-NH1	-14.80	112.90	120.30
1	I	348	ARG	NE-CZ-NH2	14.07	127.33	120.30
1	H	296	TRP	CG-CD1-NE1	12.98	123.08	110.10
1	H	296	TRP	CB-CG-CD2	11.38	141.39	126.60
1	M	60	ILE	CG1-CB-CG2	-10.28	88.78	111.40

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	L	128	PRO	Peptide

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2212	0	2159	45	0
1	B	2226	0	2177	54	0
1	D	2462	0	2418	49	0
1	E	2212	0	2159	46	0
1	F	2226	0	2177	56	0
1	G	2462	0	2418	49	0
1	H	2212	0	2159	57	0
1	I	2226	0	2177	59	0
1	J	2462	0	2418	51	0
1	K	2212	0	2159	44	0
1	L	2226	0	2177	62	0
1	M	2462	0	2418	50	0
1	N	2212	0	2159	50	0
1	O	2226	0	2177	58	0
1	P	2462	0	2418	49	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	2	0	0	0	0
2	D	1	0	0	0	0
2	E	2	0	0	0	0
2	F	1	0	0	0	0
2	H	1	0	0	0	0
2	I	2	0	0	0	0
2	K	2	0	0	0	0
2	M	1	0	0	0	0
2	N	1	0	0	0	0
2	O	2	0	0	0	0
3	D	2	0	0	0	0
3	G	2	0	0	0	0
3	J	2	0	0	0	0
3	M	2	0	0	0	0
3	P	2	0	0	0	0
4	A	5	0	0	0	0
4	B	5	0	0	0	0
4	D	4	0	0	0	0
4	E	3	0	0	0	0
4	F	1	0	0	0	0
4	G	5	0	0	0	0
4	H	4	0	0	1	0
4	I	3	0	0	1	0
4	J	3	0	0	0	0
4	K	3	0	0	0	0
4	L	5	0	0	2	0
4	M	4	0	0	0	0
4	N	5	0	0	1	0
4	O	4	0	0	0	0
4	P	7	0	0	0	0
All	All	34586	0	33770	727	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 11.

The worst 5 of 727 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:296:TRP:CZ3	1:H:366:LEU:HB2	1.73	1.24
1:H:296:TRP:HE3	1:H:366:LEU:HD22	1.19	1.07
1:H:296:TRP:HZ3	1:H:366:LEU:HB2	1.20	1.01

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:296:TRP:HD1	1:H:296:TRP:N	1.56	0.98
1:J:122:ASN:HB3	1:J:218:THR:HG21	1.56	0.87

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	288/380 (76%)	264 (92%)	17 (6%)	7 (2%)	6	20
1	B	290/380 (76%)	250 (86%)	24 (8%)	16 (6%)	2	5
1	D	321/380 (84%)	286 (89%)	25 (8%)	10 (3%)	4	15
1	E	288/380 (76%)	268 (93%)	13 (4%)	7 (2%)	6	20
1	F	290/380 (76%)	249 (86%)	25 (9%)	16 (6%)	2	5
1	G	321/380 (84%)	286 (89%)	25 (8%)	10 (3%)	4	15
1	H	288/380 (76%)	264 (92%)	17 (6%)	7 (2%)	6	20
1	I	290/380 (76%)	248 (86%)	26 (9%)	16 (6%)	2	5
1	J	321/380 (84%)	287 (89%)	24 (8%)	10 (3%)	4	15
1	K	288/380 (76%)	265 (92%)	16 (6%)	7 (2%)	6	20
1	L	290/380 (76%)	249 (86%)	23 (8%)	18 (6%)	1	4
1	M	321/380 (84%)	286 (89%)	24 (8%)	11 (3%)	3	13
1	N	288/380 (76%)	264 (92%)	17 (6%)	7 (2%)	6	20
1	O	290/380 (76%)	249 (86%)	25 (9%)	16 (6%)	2	5
1	P	321/380 (84%)	284 (88%)	28 (9%)	9 (3%)	5	17
All	All	4495/5700 (79%)	3999 (89%)	329 (7%)	167 (4%)	3	12

5 of 167 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	128	PRO
1	B	273	SER
1	B	314	VAL
1	B	317	LEU
1	B	350	ASN

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	244/309 (79%)	210 (86%)	34 (14%)	3	9
1	B	245/309 (79%)	209 (85%)	36 (15%)	3	8
1	D	267/309 (86%)	232 (87%)	35 (13%)	4	11
1	E	244/309 (79%)	212 (87%)	32 (13%)	4	11
1	F	245/309 (79%)	208 (85%)	37 (15%)	3	8
1	G	267/309 (86%)	231 (86%)	36 (14%)	4	10
1	H	244/309 (79%)	213 (87%)	31 (13%)	4	12
1	I	245/309 (79%)	206 (84%)	39 (16%)	2	6
1	J	267/309 (86%)	230 (86%)	37 (14%)	3	9
1	K	244/309 (79%)	212 (87%)	32 (13%)	4	11
1	L	245/309 (79%)	207 (84%)	38 (16%)	2	7
1	M	267/309 (86%)	233 (87%)	34 (13%)	4	12
1	N	244/309 (79%)	210 (86%)	34 (14%)	3	9
1	O	245/309 (79%)	209 (85%)	36 (15%)	3	8
1	P	267/309 (86%)	232 (87%)	35 (13%)	4	11
All	All	3780/4635 (82%)	3254 (86%)	526 (14%)	3	9

5 of 526 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	O	205	THR
1	O	318	THR

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Mol	Chain	Res	Type
1	O	187	LEU
1	P	333	VAL
1	G	225	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 19 such sidechains are listed below:

Mol	Chain	Res	Type
1	M	328	ASN
1	O	297	GLN
1	P	150	ASN
1	O	122	ASN
1	G	328	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 25 ligands modelled in this entry, 25 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	289/380 (76%)	-0.02	9 (3%) 49 45	27, 46, 93, 118	0
1	B	291/380 (76%)	0.18	14 (4%) 30 26	27, 51, 102, 117	0
1	D	321/380 (84%)	-0.09	4 (1%) 79 78	28, 46, 91, 107	0
1	E	289/380 (76%)	0.00	3 (1%) 82 82	27, 46, 87, 110	0
1	F	291/380 (76%)	0.13	13 (4%) 33 29	25, 51, 107, 124	0
1	G	321/380 (84%)	-0.07	4 (1%) 79 78	26, 45, 87, 105	0
1	H	289/380 (76%)	0.03	11 (3%) 40 36	29, 46, 92, 103	0
1	I	291/380 (76%)	0.21	16 (5%) 25 21	27, 51, 104, 120	0
1	J	321/380 (84%)	-0.10	3 (0%) 84 84	29, 46, 87, 111	0
1	K	289/380 (76%)	-0.00	7 (2%) 59 57	28, 47, 85, 111	0
1	L	291/380 (76%)	0.21	19 (6%) 18 14	29, 51, 105, 124	0
1	M	321/380 (84%)	-0.06	4 (1%) 79 78	28, 46, 85, 102	0
1	N	289/380 (76%)	-0.05	6 (2%) 63 62	28, 48, 89, 117	0
1	O	291/380 (76%)	0.20	20 (6%) 16 13	26, 52, 107, 125	0
1	P	321/380 (84%)	-0.01	7 (2%) 62 60	26, 47, 93, 111	0
All	All	4505/5700 (79%)	0.03	140 (3%) 49 45	25, 47, 99, 125	0

The worst 5 of 140 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	272	ALA	5.8
1	F	272	ALA	5.4
1	L	90	ALA	5.4
1	I	272	ALA	4.8
1	A	314	VAL	4.8

6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	CA	N	401	1/1	0.66	0.20	88,88,88,88	0
2	CA	E	401	1/1	0.70	0.20	82,82,82,82	0
2	CA	B	402	1/1	0.72	0.12	84,84,84,84	0
2	CA	I	401	1/1	0.74	0.17	99,99,99,99	0
2	CA	K	402	1/1	0.78	0.23	83,83,83,83	0
2	CA	I	402	1/1	0.78	0.12	91,91,91,91	0
3	ZN	D	401[A]	1/1	0.79	0.21	97,97,97,97	1
3	ZN	D	401[B]	1/1	0.79	0.21	121,121,121,121	1
3	ZN	J	401[A]	1/1	0.79	0.21	97,97,97,97	1
3	ZN	J	401[B]	1/1	0.79	0.21	121,121,121,121	1
3	ZN	P	401[A]	1/1	0.79	0.21	120,120,120,120	1
3	ZN	P	401[B]	1/1	0.79	0.21	102,102,102,102	0
2	CA	O	402	1/1	0.82	0.27	87,87,87,87	0
2	CA	F	401	1/1	0.84	0.14	82,82,82,82	0
3	ZN	G	401[A]	1/1	0.86	0.21	99,99,99,99	1
3	ZN	G	401[B]	1/1	0.86	0.21	124,124,124,124	1
2	CA	M	402	1/1	0.86	0.12	74,74,74,74	0
2	CA	K	401	1/1	0.89	0.10	77,77,77,77	0
3	ZN	M	401[B]	1/1	0.91	0.23	118,118,118,118	1
2	CA	B	401	1/1	0.91	0.37	89,89,89,89	0
3	ZN	M	401[A]	1/1	0.91	0.23	107,107,107,107	1
2	CA	O	401	1/1	0.92	0.15	76,76,76,76	0
2	CA	E	402	1/1	0.92	0.22	93,93,93,93	0
2	CA	H	401	1/1	0.93	0.12	77,77,77,77	0
2	CA	D	402	1/1	0.94	0.13	77,77,77,77	0

6.5 Other polymers [i](#)

There are no such residues in this entry.